

IN THE CLAIMS

Please amend and/or cancel the claim(s) of the captioned application, and/or add claim(s) to the captioned application, in accordance with the following annotations and/or mark-ups showing all change(s) relative to the previous version(s) of the claim(s) as required by 37 C.F.R. 1.121:

1. (Previously amended) A connector adapted for mounting to an electrical apparatus used in either high pressure or high temperature, or both high temperature and high pressure, applications comprising:

a metal body for mounting to the electrical apparatus having at least one conductor for carrying electricity to or from the electrical apparatus extending through said body;

a thermoplastic jacket applied in an initial position over the conductor and to the end of said metal body subjected to either high pressure or high temperature, or both high temperature and high pressure, for sealing around the conductor and movable to a second, radially outwardly expanded position for sealing against the electrical apparatus when subjected to either high pressure or high temperature, or both high temperature and high pressure; and

an insulative material interposed between the metal body and the conductor extending therethrough for sealing around the conductor.

2. (Original) The connector of claim 1 wherein said insulative material is comprised of a glass or ceramic material, or a combination of glass and ceramic material.

3. (Original) The connector of claim 1 wherein said insulative material is comprised of a glass ceramic and ceramic material, or a combination of a glass ceramic and ceramic material.

4. (Original) The connector of claim 1 wherein said insulative material is comprised of a brazed metallized ceramic material.

5. (Original) The connector of claim 1 additionally comprising a second insulative material interposed between said metal body and the conductor extending therethrough.

6. (Original) The connector of claim 5 wherein one of said insulative material is comprised of glass and the other is comprised of ceramic.

7. (Original) The connector of claim 5 wherein one of said insulative material is comprised of glass and the other is comprised of thermoplastic or other flexible insulating material.

8. (Original) The connector of claim 1 wherein said thermoplastic jacket is applied by overmolding or press-fitting over said metal body having the conductor extending therethrough.

9. (Original) The connector of claim 1 wherein said thermoplastic jacket is comprised of an aromatic polyether ketone.

10. (Presently amended) The connector of claim 6 1 wherein said thermoplastic material is selected from the group consisting of PEK, PEEK, PAEK, and PEKK, and blends of PEK, PEEK, PAEK, and PEKK with other plastics, modifiers, extenders, and polymers.

11. (Original) The connector of claim 1 wherein said thermoplastic jacket is comprised of a thermoplastic that is non-hydrolyzable and resistant to high temperature wellbore fluids, acids, and solvents, maintains favorable dielectric properties and volume resistivity at high temperatures, and retains high viscosity at high temperature and pressure.

12. (Previously amended) A connector adapted for engaging the bulkhead of an electrical apparatus comprising:

a metal body having a bore therethrough;

an electrical conductor extending through the bore in said metal body;

an insulative material sealing against said conductor;

a thermoplastic jacket sealing over the portion of said conductor extending out of said metal body and radially outwardly expandable into sealing engagement with the bulkhead of the electrical apparatus;

an O-ring on the outside diameter of said thermoplastic jacket for sealing against the bulkhead of the electrical apparatus; and

an O-ring on the outside diameter of said metal body for sealing against the bulkhead of the electrical apparatus.

13. (Presently amended) The connector of claim 12 wherein said thermoplastic jacket is comprised of a thermoplastic material that, when exposed to heat and pressure, cold flows.

14. (Presently amended) A method of sealing between an electrical conductor and an electrical apparatus in conditions of either high pressure or high temperature, or both high temperature and high pressure, the electrical conductor extending through a metal body for engaging the electrical apparatus and having an insulative material interposed between the conductor and the metal body, the metal body having a surface extending outwardly therefrom toward a surface of the electrical apparatus and a thermoplastic jacket applied over the conductor and to the end of the metal body that is subjected to high pressure and/or high temperature, comprising the steps of:

allowing the thermoplastic material comprising the jacket to cold flow upon application of high pressure and/or high temperature in the direction toward the outwardly extending surface of the metal body; and

expanding as the thermoplastic material comprising the jacket cold flows, expanding the thermoplastic material outwardly upon contact with the outwardly extending surface of the metal body into sealing engagement with the surface of the electrical apparatus.

15. (Previously presented) The method of claim 14 additionally comprising the step of compressing a sealing member positioned in a groove in the metal body between the metal body and the electrical apparatus.

16. (Previously presented) The method of claim 14 additionally comprising the step of compressing a sealing member positioned in a groove in the thermoplastic jacket between the jacket and the electrical apparatus.

17. (Previously presented) A connector adapted for mounting to an electrical apparatus used in either high pressure or high temperature, or both high temperature and high pressure, applications comprising:

a metal body for mounting to the electrical apparatus having at least one conductor for carrying electricity to or from the electrical apparatus extending therethrough;

a thermoplastic jacket applied over the conductor for sealing around the conductor, said thermoplastic jacket being radially outwardly expandable for sealing against the electrical apparatus when subjected to either high pressure or high temperature, or both high temperature and high pressure; and

an insulative material interposed between the metal body and the conductor extending therethrough for sealing around the conductor.

18. (Previously presented) A connector adapted for mounting to an electrical apparatus used in either high pressure or high temperature, or both high temperature and high pressure, applications comprising:

a metal body for mounting to the electrical apparatus having at least one conductor for carrying electricity to or from the electrical apparatus extending therethrough;

an insulating jacket applied over the conductor for sealing around the conductor, said insulating jacket being comprised of a thermoplastic material expandable radially outwardly for sealing against the electrical apparatus when subjected to either high pressure or high temperature, or both high temperature and high pressure; and

an insulative material interposed between the metal body and the conductor extending therethrough for sealing around the conductor.